



The Correlation between Managers' Thinking Style and Their Productivity (Case Study of Tehran Organization for Civil Registration)

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Abstract. While all organizations are subject to change and all organizations are seeking for ways to enhance their performance, and since each of the managers' thinking style influences their behavior, all organizations are struggling to serve their clients and obtain their consent, the need to investigate the relationship between thinking style and productivity of managers is inevitable. This study aims to investigate the relationship between thinking style and productivity of managers in Tehran organization for civil registration. The research was conducted in descriptive and correlational method. The population was 400 managers of Tehran organization for civil registration. 196 managers were chosen randomly as research sample. The research tools used in this study were Sternberg-Wagner (1992) thinking styles questionnaire and Hersey-Goldsmith productivity questionnaire (1980). Both questionnaires were given to managers and they scored themselves. Using Cronbach's alpha, the reliability of thinking style questionnaire (the mean value for legislature, executive and judicial styles) was 0.99 and for productivity questionnaire was 0.98. Data were analyzed using the Pearson correlation coefficient, paired t-test, and averages test. The results showed that all thinking styles have a positive impact on productivity of managers at Tehran organization for civil registration. However, the executive style had the most influence on productivity of the managers at Tehran organization for civil registration, that is the more thinking style of managers tend to the executive thinking style, they will be more productive.

Keywords: Sternberg-Wagner, thinking styles, attitudes, managers, productivity.

1. INTRODUCTION

Attitudes are important in people's lives, so that as some scholars such as Thomas consider attitudes as the subject matter of social psychology and define social psychology as the study of people's attitudes. Part of the importance is because these scholars believe studying the attitude is crucial for understanding social behavior. Another part of this importance is based on the assumption that attitudes determine behaviors, and this assumption implies behaviors can be changed by changing attitudes. If we know attitude of people, we can predict their behavior and control their behavior, and as we know, to predict and to control the behavior of others is very important for many people. (Karimi, 2010). At a time when organizations are undergoing constant change, managers cannot create, control, communicate, and use changes by traditional management assumptions and practices; they require innovation and creativity for their own survival and development. Research literature shows that one of the factors affecting organizational creativity and innovation is managers' thinking styles (Sternberg R., 1997). Mental attitudes that govern an institution is affected by managers' philosophy of thoughts. Since responsibilities and authorities are naturally in the hands of managers, based on their behavior performance, and policy, they direct the organization toward a direction based on their intellectual approach, that is an undeniable matter (Hatefi, 2003). People with different thinking styles are willing to use their abilities in different ways, and reactions are different according to their thinking style (Sternberg, 1998).

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Thinking styles refers to preferred practices in the use of individual abilities. There are three specific ways to understand thinking styles including observing behaviors when addressing affairs, asking others about their perception of thinking styles, and completing questionnaires. Understand thinking styles helps people adjust their thoughts to cope with different thinking styles, and at the same time succeed in their communications (Hosseini, 2011). Sternberg thinking style patterns have three functions that include: 1. legislative (creative) 2. executive (realizing) and 3. judicial (evaluating) (Saif, 2004), and these three styles can be applied for all people and in all places. This article tries to examine the different thinking styles (legislative, executive, judicial) and their relationship to enhance the productivity of managers in order to provide the context better performance of managers at Tehran organization for civil registration.

Statement of the problem

harmonization of managers' thinking styles with activities and tasks that have been assigned to them will result in their job satisfaction and increased productivity and will improve the productivity of the organization. although criteria, objectives and plans, and assignments given to managers is determined, different tastes, expertise, experience and personal factors considerably affect their ability and executive performance. People are successful in careers that are based on not only their abilities, but also on their thinking styles. It is repeatedly found that people with higher education cannot perform their duties, but this is not due to their inability. The ability is necessary to succeed in everything, but is not sufficient. Understanding thinking styles help people to select appropriate activities, since thinking style is an important factor in deciding about abilities. Non-compliance of thinking styles with the tasks assigned to people can lead to job failure (Mirzaei, 2011).

One of the main goals of any organization is the promotion of productivity, and considering the fact that human has a central role in the development of productivity, his/her demands have a key effect in organizations. Today, the productivity and its promotion is an undeniable need for organizations. Experience has shown that an organization can be successful only by relying on its employees. Nowadays, productivity is considered a method, a concept, and a vision about living and working, and indeed it is known as a culture and a worldview. Productivity can be involved in all affairs, work, and personal and social life, and is an indicator to determine the country's per capita income, and to increase the productivity of each country, its per capita income must be increased (Nazem, 2004).

Thus, given the importance of thinking styles and increased productivity in organizations, the researcher seeks to respond to the question that whether thinking styles of managers have any relationship with their productivity at Tehran organization for civil registration?

Research Necessity

Thinking style that is the preferred of thinking expresses that what happens to us in life is related not only to the good thinking, but also to how we think. The managers are the most important factor in survival, growth or destruction of an organization, and this is true for them (Saif, 2012).

In today's educational systems, developing thinking skills is of great importance, and children are taught how to use their thinking ability to live. Therefore, it seems that understanding thinking styles (as the preferred pattern of reasoning, evaluation and judgment) and its application in everyday life and in different contexts can be enlightening. Research has shown that certain ways of thinking can be used as significant predictors of performance (Rafati, 2012).

Efforts to improve and effective and efficient use of resources such as labor, capital, materials, energy and information is the objective of all managers at economic organizations, industrial-production units, and service institutions. Adequate organizational structures, efficient

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procedures, appropriate equipment and tools, balanced environment, and above all qualified and worthy human resources are necessary to be considered by managers in order to achieve optimum productivity (Ostadzadeh, 2008). Knowledgeable and informed participation of employees in their efforts along with discipline can affect productivity, especially in a turbulent and insecure environment. The spirit of improving productivity should be blown into organization's body, where human resources constitute the core (Mirzaei, 2011).

In total, this study is necessary in two ways: A) theoretical importance, where it is hoped to provide acceptable hypotheses based on our components, B) applied importance, where it is hoped to provide practical solutions to improve the productivity at Tehran organization for civil registration.

2. LITERATURE REVIEW

Thinking style

Sternberg has defined thinking styles as different ways of processing information. According to the research, a factor that enables an individual to pursue his/her own abilities is called thinking style. Style is the preferred way of thinking; it is not synonymous with abilities, but with use of potential abilities. If people choose jobs that are commensurate with their thinking style, they achieve higher percentage of success to develop their intellectual capacity (Sternberg, 1998, p. 54).

Legislative style

People who have legislative thinking style are interested in doing things as they prefer, and decide what to do and how to do it. They want to set rules, and to address issues that have not already been planned and organized. Legislative style actually leads to creativity, since creative people are not only able to create innovative ideas, but are more interested in the topic (Sternberg, 1998, p. 35).

Executive style

People who have executive thinking style are interested in following the rules and take pre-planned and organized tasks. They are willing to play their role within the existing structures, rather than to create a new structure. This thinking style is welcomed in the educational environment and many other occupations, since executive people usually apply what they are asked, that is often associated with satisfaction. They follow commands and rules and evaluate themselves based on the way that the organization evaluates them (Sternberg, 1998, p. 36).

Judicial style

People who have judicial thinking style are interested in examining and evaluating rules and plans. They prefer areas where current ideas and issues are analyzed and evaluated. People with judicial thinking style prefer activities such as writing critical articles, offering opinions, and doing judgments about people and what they do (Sternberg, 1998, p. 37).

Productivity

Productivity is derived from two concepts of efficiency and effectiveness, meaning doing the right things. In other words, productivity is the case where the right resources are consumed, and objectives are achieved (Alagheband, 2006, p. 24).

Productivity is obtaining the maximum possible profit from labor, power, talent and skills of human resources, land, machinery, money, equipment, time, and place in order to improve social welfare, so that its increase is always considered necessary by all politics and economics scholars to improve the human life, and to build a more prosperous society (Abtahi and Kazemi, 1996, p. 63).

Productivity consists of effectiveness and efficiency, and also includes a set of results and products with the highest level of performance (Nazem, 2004, p. 50).

Research background

Result	Year	Statistical population	Subject	Row
No significant correlation was found between thinking style of elementary school principals and their transformational leadership style	2011-2012	Elementary schools at Neishabour	The relationship between thinking style of elementary school principals and their transformational leadership style	1
There was a positive significant correlation between liberal thinking style and technical power. There was no significant correlation between thinking styles and the power resources of school principals in terms of sex, education level, and managerial experience, except for legislative thinking style, where there was a difference based on sex.	2013-2014	Principals and teachers of schools at Birjand	The relationship between thinking styles and the power resources of school principals	2
Using participatory management style in university hospitals at city of Isfahan did not improve hospital performance.	2003-2004	Managers and employees of university hospitals in Isfahan	The relationship between leadership styles and effectiveness of university hospitals	3
Using an integrated style (due to negative correlation) decreased productivity.	2009-2010	Administrative managers of physical education in East Azarbaijan Province	The relationship between leadership style and productivity of sport managers	4
Managers with combined thinking styles should be used for the administration of the center.	2004-2005	Managers of the Center for Intellectual Development of Children and Young Adults at Tehran	The relationship between managers' supervisory style and employee productivity	5

Research Methodology

Theoretical framework of the paper in thinking style is based on Sternberg and Wagner (1992) theory, and in productivity is based on Hersey and Goldsmith (1980) model.

Thinking Style

The study uses Sternberg-Wagner adjusted questionnaire (1992) to evaluate managers' thinking style at Tehran organization for civil registration, that consists of 23 questions, thinking style is scores the subjects take from this questionnaire.

Legislative thinking style

In the present study, legislative thinking style is determined by scores people take from questions 1 to 8 of the thinking style questionnaire.

Executive thinking style

In the present study, executive thinking style is determined by scores people take from questions 9 to 16 of the thinking style questionnaire.

Judicial style

In the present study, judicial thinking style is determined by scores people take from questions 17 to 23 of the thinking style questionnaire.

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Productivity

In this study, Hersey and Goldsmith standard productivity questionnaire (1980) is used to evaluate the performance of managers at Tehran organization for civil registration, that consists of 17 questions, and is evaluated based on scores the subjects take from this questionnaire.

The population was 400 managers of Tehran organization for civil registration in 2014-2015, in which 127 were women and 273 were men.

Estimating sample size and sampling method

In order to increase accuracy of sampling, the sample is selected based on random sampling and sample size of 196 managers were chosen based on Bhola table (Khorshidi, 2007).

Conceptual model

The relationship between variables is shown in the figure below. This study tries to examine the relationship between independent variables and the dependent variable.

Research Hypotheses

The main hypothesis

There is a positive relationship between different thinking styles and productivity of managers at Tehran organization for civil registration.

Secondary hypotheses

There is a positive relationship between legislative thinking style and productivity of managers at Tehran organization for civil registration.

There is a positive relationship between executive thinking style and productivity of managers at Tehran organization for civil registration.

There is a positive relationship between judicial thinking style and productivity of managers at Tehran organization for civil registration.

Description of Thinking Style and Productivity variables

1. Thinking style

Thinking style consists of 3 legislative, executive and judicial styles, each are described individually in following table:

Table 1. Distribution of respondents according to the legislative thinking style

percentage	frequency	Legislative thinking style
11.7	23	low
49.0	96	moderate
39.3	77	high
100.0	196	total
max:56		min: 8
Mean: 37.65		

Table 1 shows data distribution of legislative thinking style among respondents. As can be seen, up to 49% of respondents, that is the majority of respondents, have a moderate level of

legislative thinking style, while 11.7 percent have low, and 39.3 percent have high level of this type of thinking style.

In addition, the average index in the range (8-56) is equal to 37.65 indicating that the legislative thinking style is high-moderate among respondents.

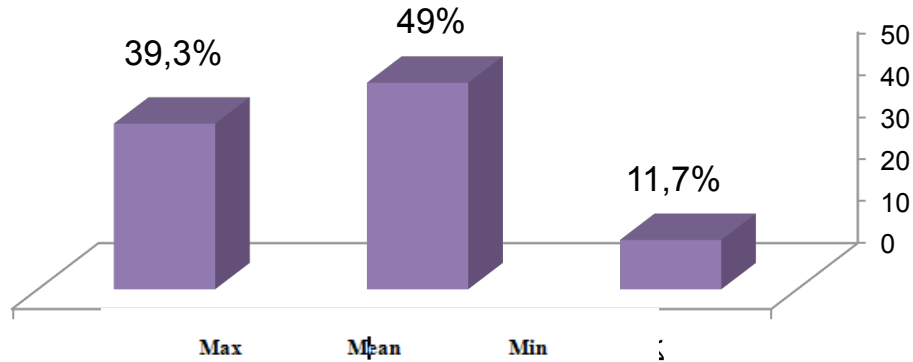


Table 2. Distribution of respondents according to the executive thinking style

percentage	frequency	Executive thinking style
35.7	70	low
49.5	97	moderate
14.8	29	high
100.0	196	total
Max: 56 Min: 8 Mean: 28.40		

Table 2 shows data distribution of executive thinking style among respondents. As can be seen, 35.7% of respondents have a low level of executive thinking style, while 49.5 percent have moderate, and 14.8 percent have high level of this type of thinking style.

In addition, the average index in the range (8-56) is equal to 28.40 indicating that the executive thinking style is low-moderate among respondents.

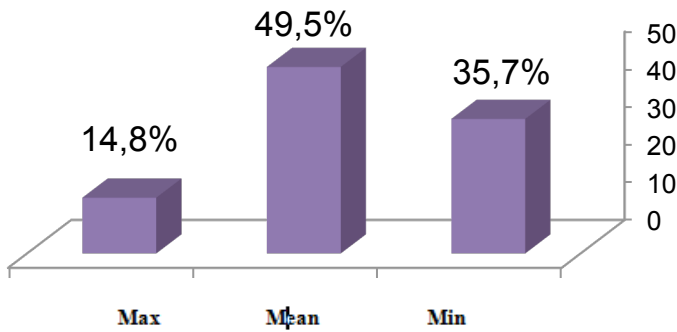


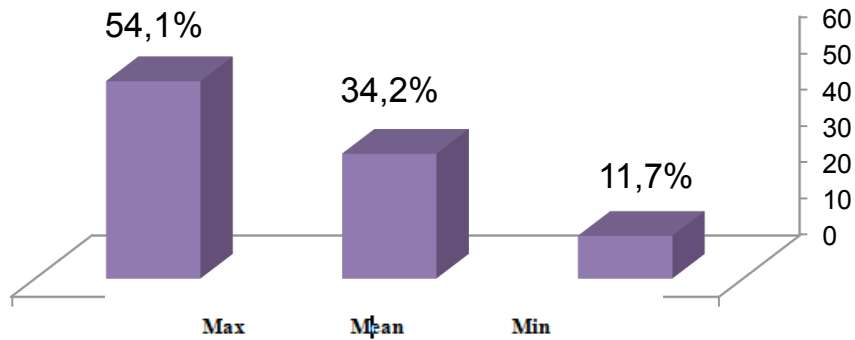
Table 3. Distribution of respondents according to the judicial thinking style

percentage	frequency	Judicial thinking style
11.7	23	low
34.2	67	moderate
54.1	106	high
100.0	196	total
Max: 49 Min: 9 Mean: 35.48		

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The findings in relation to the distribution of respondents according to the Judicial thinking style shows that 54.1% of respondents have a high level of judicial thinking style, while 11.7 percent have low, and 34.2 percent have moderate level of this type of thinking style.

In addition, the average index in the range (9-49) is equal to 35.48 indicating that the judicial thinking style is high among respondents.



2. Productivity

Table 4. Distribution of respondents according to the amount of productivity.

percentage	frequency	Judicial thinking style
18.4	36	low
47.4	93	moderate
34.2	67	high
100.0	196	total
Max: 84 Min: 19 Mean: 55.84		

Frequency of productivity of respondents in Table 4 shows that 47.4% of respondents have a moderate level of productivity, while 18.4 percent have low, and 34.2 percent have high level of productivity.

In addition, the average index in the range (19-84) is equal to 55.84 indicating that the productivity is high-moderate among respondents.

Hypotheses Test

Evaluating the status of normality in research variables

Table 5. Normality of research variables.

One-Sample Kolmogorov-Smirnov Test				
Productivity	Judicial thinking style	Executive thinking style	Legislative thinking style	
.692	1.817	.905	2.217	Kolmogorov-Smirnov
.724	.003	.386	.000	Significance level

Prior to the test the research hypotheses, variables should be evaluated in terms of their distribution around the mean (normal distribution). Kolmogorov-Smirnov test was used to evaluate normality of the variables (Normal distribution means that the distribution of a variable around the mean is homogenous; in other words, the distribution curve should be bell-shaped).

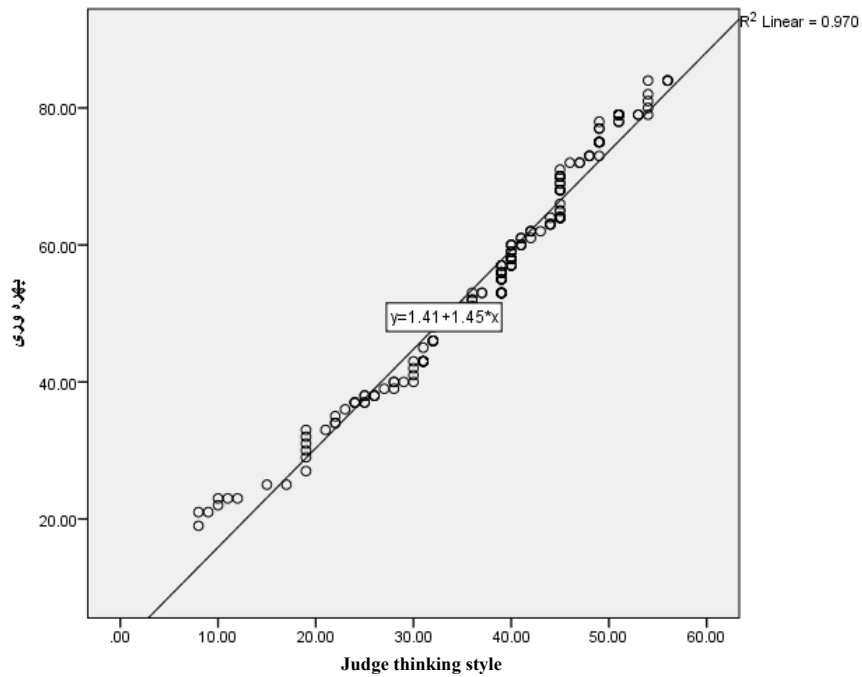
Test results show that with the exception of executive thinking style and productivity variables that have normal distribution (Non-normality hypothesis is rejected), other variables, i.e. judicial and legislative thinking styles do not have normal distribution. Therefore, to test hypotheses that have variables with normal distribution, Pearson correlation test, and for variables that both or one of them do not have a normal distribution, Spearman correlation test was used.

First hypothesis: There is a significant relationship between legislative thinking style and productivity of managers in Tehran organization for civil registration.

Table 6. Analyzing legislative thinking style and productivity variables.

value	Statistics
0.996	Correlation coefficient
0.000	Significance level

Given that legislative thinking style variable is not normally distributed, Spearman correlation coefficient was used to test this hypothesis. The results show that the intensity of the relationship between these two variables is 0.996, and the relationship is positive. Since the significance level of the test is less than 0.01 (sig = 0.00), the correlation is not accidental, and can be generalized to the research population. In other words, it can be said that the hypothesis is confirmed and there is a significant positive relationship between legislative thinking style and productivity of managers.



Second hypothesis: There is a significant relationship between executive thinking style and productivity of managers in Tehran organization for civil registration.

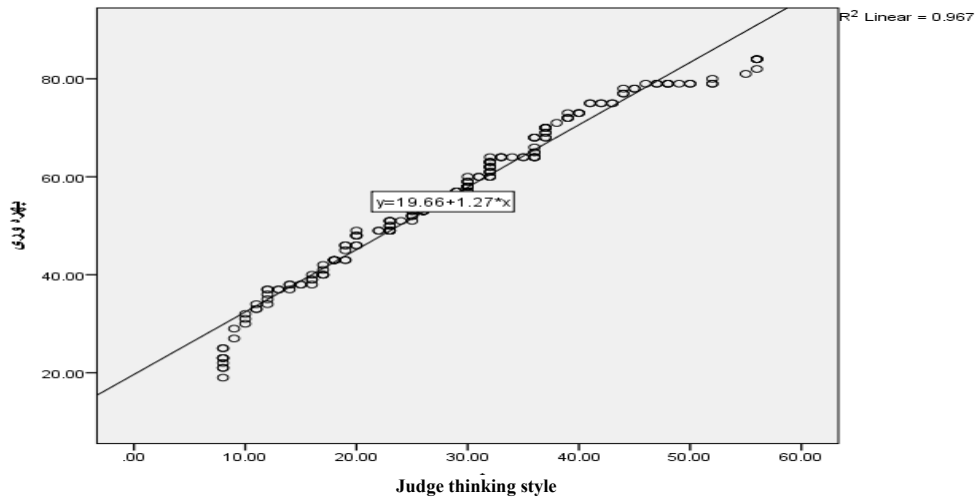
Table 7. Analyzing executive thinking style and productivity variables.

value	Statistics
0.983	Correlation coefficient
0.000	Significance level

Given that legislative thinking style variable is normally distributed, Pearson correlation coefficient was used to test this hypothesis. The results show that the intensity of the

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relationship between these two variables is 0.983, and the relationship is positive. Since the significance level of the test is less than 0.01 (sig = 0.00), the correlation is not accidental, and can be generalized to the research population. In other words, it can be said that the hypothesis is confirmed and there is a significant positive relationship between executive thinking style and productivity of managers.

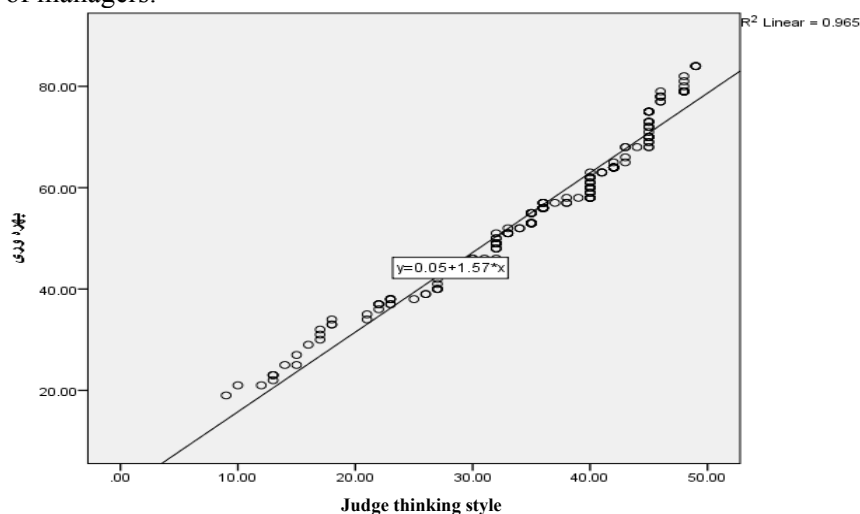


This hypothesis: There is a significant relationship between judicial thinking style and productivity of managers in Tehran organization for civil registration.

Table 8. Analyzing judicial thinking style and productivity variables

value	Statistics
0.982	Correlation coefficient
0.000	Significance level

Given that legislative thinking style variable does not have normal distribution, Spearman correlation coefficient was used to test this hypothesis. The results show that the intensity of the relationship between these two variables is 0.982, and the relationship is positive. Since the significance level of the test is less than 0.01 (sig = 0.00), the correlation is not accidental, and can be generalized to the research population. In other words, it can be said that the hypothesis is confirmed and there is a significant positive relationship between judicial thinking style and productivity of managers.



Multiple regression analysis

To study the simultaneous impact of thinking style aspects on the productivity, multiple regression analysis was used. The results of these test show the simultaneous impact of these three variables and the style that has the highest impact on productivity; the results are shown in the following:

Table 9. Regression coefficients.

Model Summary				
Standard error	Adjusted determination coefficient	Determination coefficient	Multiple regression coefficient	Regression step
2.66007	.970	.970	.985 ^a	1 (legislative thinking style)
1.60402	.989	.989	.995 ^b	2 (legislative thinking style, executive thinking style)
1.40409	.992	.992	.996 ^c	3 (legislative thinking style, executive thinking style, judicial thinking style)

The results of multiple regression analysis in Part I shows that the coefficient of determination is equal to 0.992, that shows the three thinking style aspects explain 99.2 percent of impacts of productivity.

Coefficients ^a						
Significance level	t	Standardized coefficients	Non-standardized coefficients		Last step of regression	
		Impact factor	Standard error	Impact factor		
.000	15.379		.539	8.296	Fixed value	3
.000	4.482	.209	.068	.307	Legislative thinking style	
.000	20.560	.471	.030	.610	Executive thinking style	
.000	7.738	.329	.068	.526	Judicial thinking style	

Impact factors show the impact of independent variables on the dependent variable (productivity). As can be seen in Table 9, the highest impact on productivity variable was for executive thinking style variable, where the amount of the impact factor is 0.471. Then the variables of judicial thinking style with impact factor of 0.329, and legislative thinking style with by impact factor of 0.209 were placed. The significance level of t test also shows that all these impacts are significant.

Evaluating the Reliability of Research Variables

Table 11. Cronbach’s alpha to examine reliability of research variables

Cronbach’s alpha	Number of items	Variable
0.959	8	Legislative thinking style
0.962	8	Executive thinking style
0.978	8	Judicial thinking style
0.988	17	Productivity

To examine reliability of research variables, Cronbach's alpha statistic is used. If the value of this parameter is higher than 0.7, it can be said that items designed to measure the variable have high range of internal solidarity and are appropriate to measures that variable. The findings

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suggest that the value is higher than 0.7 for all variables (legislative thinking style, executive thinking style, judicial thinking style, and productivity). Therefore, it can be said that research tool is highly reliable.

3. CONCLUSION

As mentioned earlier, this article studies the relationship between thinking style of managers and their productivity. Thinking styles includes three legislative, executive, and judicial styles.

The findings show:

- Average legislative thinking style of the respondents in the range (8-56) is equal to 37.65, which indicates that respondents tend to have high-moderate levels of this type of thinking style.
- Respondents have low-moderate level of executive thinking style, average of this kind of thinking in the range (8-56) is equal to 28.40.
- Based on the results of the study, respondents have high level of judicial thinking style, average of this thinking style in the range (9-49) is equal to 35.48.

It can be said that most of the subjects have judicial thinking style, and the other two types of thinking (executive and legislative) are less common among respondents.

In addition to the above results, the findings of research on the productivity of the respondents indicate that most of them (47.4%) have moderate productivity, the average value of this variable in the range (19-84) shows that productivity is high among respondents.

In bivariate analysis and discussion of the relationship between thinking styles and productivity, results show that:

- There is a positive significant relationship between legislative thinking style and productivity of managers at Tehran organization for civil registration, and the relationship intensity is high.
- There is a positive significant relationship between executive thinking style and productivity of managers at Tehran organization for civil registration, and the relationship is strong.
- There is a positive significant relationship between judicial thinking style and productivity of managers at Tehran organization for civil registration, and the relationship intensity is high.

Therefore, it can be said that all thinking styles have a positive impact on productivity of managers at Tehran organization for civil registration. However, the executive style had the most influence on productivity of the managers at Tehran organization for civil registration, that is the more thinking style of managers tend to the executive thinking style, they will be more productive.

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